

Remarks

The above Amendments and these Remarks are in reply to the Office action mailed January 29, 2003. Claims 1-20, 24-31, 60-76 are presented herewith for consideration.

Rejection of Claims 21-24, 28 and 71-73 Under 35 U.S.C. §112

Claims 21-24, 28 and 71-73 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21-23 have been deleted.

Claim 24 now depends from claim 14 and it is respectfully submitted that claim 24 is now sufficiently definite.

Claim 28 includes an affirmative declaration of "an input voltage." It is respectfully submitted that no antecedent basis is required and that this claim sufficiently points out and distinctly claims the invention.

Claims 71-73 have been amended and it is respectfully submitted that the claims are now sufficiently definite.

Rejection of Claim 1 Under 35 U.S.C. §102(b)

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,021,747 to Todokoro ("*Todokoro*").

It is respectfully submitted that *Todokoro* does not anticipate the invention as defined in claim 1 as *Todokoro* fails to disclose "a field transistor" as such term is defined in claim 1. The term "field transistor" is defined as:

A field transistor is defined, within the scope of this disclosure, as a field-effect transistor having a gate oxide thicker than the maximum gate oxide used for low voltage field-effect transistors in an integrated circuit device and operable within a triode region when proper voltages are applied to the gate, drain and source. A low voltage field-effect transistor is a transistor designed to withstand no more than 20V on a gate oxide. Furthermore, a field transistor, for purposes of definition within this disclosure, has a gate oxide thick enough to withstand a gate to source voltage in excess of about 40 Volts without breaking down.

In the context of this disclosure, field-transistors typically have a gate oxide greater than 0.5 microns, but may be as thin as 0.1 microns. Field transistors may be constructed using either a polysilicon or metal gate layer deposited over a thick, grown, thermal oxide. Many existing CMOS technologies include a LOCOS-based oxidation step in which a thick oxide is grown from a silicon wafer surface in defined areas; field transistors may be formed on this thick oxide formed during LOCOS... [Specification, page 6, line 16-31]

The Examiner asserts that Q1 of *Todokoro* shows a "field transistor". However, there is no disclosure that the transistors of *Todokoro* have any particular oxide thickness, only that "...[a]lthough triode- and pentode-type junction field effect transistors may be used, singly or in combination, in a signal amplifier circuit according to this invention, description will be first made on signal amplifier circuits using the pentode-type junction field effect transistors." Col. 3, lines 6-10.

Claim 1 now includes the limitation calling for:

an oxide separating said source and said drain regions and said control region, and said oxide has a thickness greater than a maximum thickness available to other devices on an integrated circuit chip on which the circuit is manufactured

A similar limitation was present in claim 21 and no substantive rejection based on prior art was set forth with respect to claim 21. However, the Examiner did reject claim 21 based on 35 U.S.C. §112.

The Examiner stated that the limitation "the maximum thickness" was indefinite as not supported in the specification and unclear (Office Action, page 2). However, the limitation does not call for a specific thickness, but rather a relative thickness dependent on other transistors in the device. Hence, no specific

thickness for this limitation is required.

Moreover, the thickness of the oxide of the MOS transistor is given by way of example at line 10 on page 8. It is therefore respectfully submitted that one skilled in the art would be fully aware of the scope of the limitation as now defined in claim 21, and claims 21 and 22 – 24 dependent therefrom, are sufficiently definite and particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is therefore respectfully submitted that claim 21 is not anticipated by *Todokoro*.

Rejection of Claims 14-16, 25 and 29 Under 35 U.S.C. §102(e)

Claims 14-16, 25 and 29 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,265,941 to Lopata ("*Lopata*").

It is respectfully submitted that *Lopata* fails to teach a "field transistor" as defined in Claim 14. Moreover, Claim 14 has been amended to include a limitation calling for:

a first field transistor having a source, a drain and a control region, **operable within a triode region**; (*emphasis supplied*)

The Examiner has asserted that transistor 2T1 of *Lopata* discloses a "field transistor". However, there is no teaching of the particular characteristics of a "field transistor" as such term is used in claim 14 in *Lopata* with respect to transistor 2T1. There is little disclosed at all about the makeup of transistors 2T2 and 2T2, other than their provision as the input stage transistors. There is nothing in the disclosure of *Lopata* which discloses any characteristic of a "field transistor", be it operation in the triode region or oxide thickness relative to other devices on the substrate, that discloses the claimed feature of the invention of claim 14.

It is therefore respectfully submitted that since all features of the claimed invention are not present in the cited *Lopata* reference, *Lopata* does not anticipate claim 14, nor claims 15 – 16, 25 nor 29, dependent therefrom.

Reconsideration of claims 14– 16, 25 and 29 is therefore requested.

Rejection of Claims 2-4 Under 35 U.S.C. §103(a)

Claims 2-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view of U.S. Patent No. 5,502,009 to Lin ("*Lin*").

As noted above, *Todokoro* fails to disclose a critical feature of the invention as defined in claims 2 –4 by virtue of their dependency on claim 1, that of a "field transistor". Hence, it is respectfully submitted that one of average skill in the art would not be led by the teachings of *Todokoro* alone or combined with *Lin*, to the invention defined in claims 2 – 4. While *Lin* teaches a LOCOS process, it does not disclose

a MOS transistor having an oxide separating said source and said drain regions and said control region, and said oxide has a thickness greater than a maximum thickness available to other MOS devices on an integrated circuit chip on which the circuit is manufactured

Hence, reconsideration of claim 2 – 4 is respectfully requested.

Rejection of Claim 5 Under 35 U.S.C. §103(a)

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view U.S. Patent No. 6,187,657 to Xiang et al. ("*Xiang et al.*").

Likewise, it is respectfully submitted claim 5 is not obvious in view of *Todokoro* and *Xiang et al.* Claim 5 is dependent on claim 1 and includes all the limitations thereof. Nothing in the references

teaches the invention as now defined in claim 1 including a field transistor, nor would one of average skill in the art be led by the teachings of *Todokoro* and *Xiang et al.* alone or in combination to provide the invention as now defined in claim 5.

Hence, reconsideration of claim 5 is respectfully requested.

Rejection of Claims 6 and 13 Under 35 U.S.C. §103(a)

Claims 6 and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view *Xiang et al.* further in view of U.S. Patent No. 6,362,508 to Rasovsky et al. ("*Rasovsky et al.*").

Claims 6 and 13 are dependent on claims 1 and 6, respectfully, and include all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claims 6 and 13 are not obvious.

Reconsideration of claims 6 and 13 is therefore respectfully requested.

Rejection of Claim 7 Under 35 U.S.C. §103(a)

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view of *Xiang et al.* further in view of U.S. Patent No. 6,362,508 to Goo ("*Goo*").

Claim 7 is dependent on claim 1 and includes all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claim 7 is not obvious.

Reconsideration of claim 7 is therefore respectfully requested.

Rejection of Claims 8-11 Under 35 U.S.C. §103(a)

Claims 8-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view

of *Rasovsky et al.*

Claims 8-11 are dependent on claim 1, and include all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claims 8-11 are not obvious.

Reconsideration of claims 8 – 11 is therefore respectfully requested.

Rejection of Claim 12 Under 35 U.S.C. §103(a)

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view of *Lin* further in view of U.S. Patent No. 5,008,719 to Schrantz ("*Schrantz*").

Claim 12 is dependent on claim 1 and includes all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claim 12 is not obvious.

Reconsideration of claim 12 is therefore respectfully requested.

Rejection of Claims 17-19, 27, 30-31 and 66-69 Under 35 U.S.C. §103(a)

Claims 17-19, 27, 30-31 and 66-69 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lopata*.

Claims 8-11 are dependent on claim 14. As noted above, claim 14 fails to disclose:

a first field transistor having a source, a drain and a control region, operable within a triode region;

Lopata teaches nothing with respect to the physical configuration or operation of the transistors. Absence of the critical teaching of a field transistor remains true with respect to claims submitted claims 17-19, 27, 30-31 and 66-69, as all such claims are dependent on claim 14. Hence, for the reasons set forth above with respect to claim 14, it is respectfully submitted claims 17-19, 27, 30-31 and 66-69 are

not obvious.

Reconsideration of claims 17-19, 27, 30-31 and 66-69 is therefore requested.

Rejection of Claims 60-62 Under 35 U.S.C. §103(a)

Claims 60-62 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro*.

Claims 60-62 are dependent on claim 1, and include all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claims 60-62 are not obvious.

Rejection of Claims 63, 65, 70 and 74 Under 35 U.S.C. §103(a)

Claims 63, 65, 70 and 74 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lopata* in view of U.S. Patent No. 5,426,396 to Bee ("*Bee*").

Claims 63, 65, 70 and 74 are dependent on claims 15 and 63, respectfully, and include all the limitations thereof. For the reasons set forth with respect to claim 15, it is respectfully submitted claims 63, 65, 70 and 74 are not obvious.

Reconsideration of claims 63, 65, 70 and 74 is therefore respectfully requested.

Rejection of Claim 64 Under 35 U.S.C. §103(a)

Claim 64 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Lopata* in view of *Bee* further in view of U.S. Publication No. 2002/0135410 A1 to Pullela et al. ("*Pullela et al.*").

Claim 64 is dependent on claim 63 and includes all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claim 64 is not obvious.

Rejection of Claims 75 and 76 Under 35 U.S.C. §103(a)

Claims 75 and 76 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Todokoro* in view *Bee*.

Claims 75 and 76 are dependent on claim 1, and include all the limitations thereof. For the reasons set forth with respect to claim 1, it is respectfully submitted claims 75 and 76 are not obvious.

Based on the above amendments and these remarks, reconsideration of claims 1-20, 24-31, 60-76 is respectfully requested.

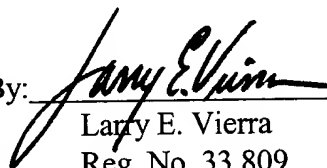
The Examiner's prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned attorney by telephone.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136 for extending the time to respond up to and including July 29, 2003.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this Response, including any fee for extension of time, which may be requested.

Respectfully submitted,

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By: 
Larry E. Vierra
Reg. No. 33,809

VIERRA MAGEN MARCUS HARMON & DENIRO LLP
685 Market Street, Suite 540
San Francisco, California 94105-4206
Telephone: (415) 369-9660
Facsimile: (415) 369-9665